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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/014,297	01/27/98	BROWN	F LI30-001

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EXAMINER

CHOI, K

ART UNIT

PAPER NUMBER

2763

DATE MAILED: 01/12/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/014,297

Applicant(s)

BROWN, FRED A.

Examiner

Kyle J Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 1999.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☐ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other:

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DETAILED ACTION

1. The following is a Final Office Action in response to the communication received on October 29, 1999.

Claim Rejections - 35 USC § 112

2. The previous rejection under 35 USC §112, second paragraph, has been withdrawn based on the amendment.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al.

Thompson et al. (US Pat. No. 5,574,841) discloses an apparatus and method for designing and maintaining power

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transmission lines. The system is a collection of computer programs that allow a designer to design a power line from scratch or perform analysis on already existing power lines for operational parameters such as transmission line sag due to environmental conditions, aging, etc. including modeling of the power lines and modifications of the designed/existing power line models to analyze and verify design criteria (see at least col. 3, lns. 17-20, 35-37; col. 4, lns. 15-19, 41-42, 54-58). Thompson et al. also teaches using/modeling usage of jumpers, i.e., clamps, (col. 7, lns. 5-6) and the ability to iterate design analysis so that all design criteria are satisfied, i.e., optimization (col. 7, lns. 45-48; col. 19, lns. 42-44). Furthermore, the conductors are not only modeled based on existing operational conditions, but also under extreme conditions to predict its performance (col. 20, lns. 42-44).

As to the identifying of the "critical span", the specification of the present invention describes a "critical span" as the span that needs to be altered to be re-rated, i.e., the span that is under analysis. Such "critical span" is inherently taught in Thompson et al. as the span of transmission

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line being redesigned and analyzed for conformity to design rules.

Response to Arguments

5. Applicant's arguments filed October 29, 1999 have been fully considered but they are not persuasive.

In particular, applicant argues that Thompson et al. does not teach all the features recited in the claims, in particular to the amended claims 1 and 14 which now positively recite that the modeling step occurs AFTER the supporting step of the conductors. Furthermore, applicant alleges that the examiner "utterly ignored" features in the claims.

Firstly, it is respectfully submitted that the Thompson et al. reference still teaches the invention recited in the claims for the reasons to be discussed below.

Secondly, the examiner apologies for being brief in the first Office Action. However, applicant is assured that the recited claims were not "utterly ignored". Rather, features readily apparent to one of ordinary skilled in the art from reading the Thompson et al. reference and steps already

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notoriously well known in the art were not specifically mentioned for the sake of brevity. However, for applicant's convenience, a more detailed discuss follows. Independent claims 1, 9, and 14 will be analyzed first.

Claim 1:

Claim 1 recites the steps of providing a conductor, supporting the conductor, creating a model of the supported conductor, identifying a critical span of the modeled conductor, altering the modeled conductor, and analyzing the altered model of the conductor.

Thompson et al. teaches a system and method for designing and maintaining a power line system. As admitted by the applicant, the Thompson et al. system is used to design an initial power line system from scratch, all within a computer-modeled environment. It is inherent that after the designing step is complete, the power lines are built based on the design. After all, what is the point of designing something if it is not going to be built. This constitutes the "providing" and the "supporting" steps recited in claim 1. Thompson's system also

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includes a "Sag & Tension" program. Thompson teaches that the "Sag & Tension" program is used for routine maintenance. (see col. 20, line 29). During the routine maintenance, the actual sag and tension are not directly measured. Rather, the connection points are entered including the environmental conditions and the conductor's state is then calculated based on these information (i.e., the existing conductor is modeled). This "modeled" conductor can then be analyzed under virtual extreme conditions. (see col. 20, line 42). Furthermore, Thompson's system is an integrated "total system" (e.g., col. 19, line 3) meaning that each module can be used to process the model generated in another module. Hence, once a model of an existing conductor is generated as in the step above, Thompson's CAD system can be used to make alterations to the modeled conductor including analysis of the performance of the modeled conductor under different environmental conditions. This constitutes the "modeling", "identifying", "altering", and "analyzing" steps of claim 1. Hence, Thompson et al. anticipates claim 1.

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Claim 9:

Claim 9 recites the step of providing a conductor, supporting the conductors, altering the conductors including removing a portion and adjusting the clamps.

This claim is devoid of any modeling step. Hence, the steps recited in claim 9 is a method of stringing a conductor between supporting structures manually by trial and error, a method notoriously well known and routinely done in the art. That is, a technician strings a conductor between two support structures using clamps - i.e., the "providing" and "supporting" steps. Once finished, the technician measures the clearing height typically by a surveying instrument and finds out the conductor is too long. Hence, the technician cuts the conductor to an adjusted length - i.e., the "altering" step and re-clamps the shortened conductor. Although these steps are not specifically taught by Thompson, the recited method is performed by every technician who strings power lines. Since Thompson teaches a method of designing power lines to be built, the step of building the designed power line is considered inherent.

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Claim 14:

Claim 14 recites the step of providing a conductor, creating a model of the conductor, first analyzing the modeled conductor under increased operating conditions, identifying a critical span, altering the modeled conductor, and analyzing the altered model of the conductor.

This claim, as recited, is devoid of any steps to actually "construct" a conductor. Rather, the "providing" step is taken merely to "provide" a conductor to be modeled in the "modeling" step. Thompson's system uses a library of modeled conductors with different characteristics. For this database of modeled conductors to exist, it is inherent that different types of conductors must have been "provided" for the modeling to have taken place. Hence, Thompson anticipates these steps. Thompson also teaches subjecting the conductors to different environmental conditions using the "conductor program". (see at least col. 17, lines 20-30). Since Thompson's system employs a CAD system in designing the power lines, it then follows that different lengths, materials, etc. can be used based on the analysis of the operating conditions to adjust for alteration of

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design. Furthermore, the same analysis method can be used for the new models. Hence, claim 14 is anticipated by Thompson et al.

Turning now to the dependent claims:

Claim 2:

Claim 2 recites analyzing the modeled conductor under increased operating conditions. This feature has been discussed above with regard to claim 14. That is, Thompson teaches simulating the modeled conductor under various environmental conditions including maximum and minimum temperatures. (see col. 17, lines 20-25).

Claim 3:

Claim 3 recites supporting the conductor using a plurality of clamps. It is notoriously well known to use clamps to support the cables and since building the designed power line is inherent to Thompson, using clamps is also inherent and contemplated by the Thompson reference. Indeed, the design costing/distribution program is taught to include calculation of

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cost of all the materials, time, and fittings for building the designed power line.

Claim 4:

Claim 4 recites removing at least a portion of the modeled conductor and adjusting the position of the clamps. As explained above, Thompson utilizes a CAD program for designing and modifying the design. This would inherently include allowing the user to shorten or lengthen the conductor based on the simulation and position of the clamps would logically have to be adjusted based on the modified conductor.

Claim 5:

Claim 5 recites identifying another "critical span". As discussed previously, a "critical span" is merely the portion of the conductor under analysis. Hence, Thompson teaches the step of "identifying" another critical span - i.e., another conductor under analysis.

Claim 6:

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Claim 6 recites repeating the previous steps. Again, repeating the same steps of analysis of another conductor on another portion of the power line is inherent in Thompson since any user using Thompson's system would repeat until all the power lines have been designed and verified.

Claim 7:

Claim 7 is the same recitation as that of claim 4 above.

Claim 8:

Claim 8 recites using a computer. The system of Thompson uses a computer.

Claims 10-13, 15-20 are similar recitations of claims 2-8 but depending from corresponding independent claims 9 or 14. Since independent claims 9 and 14 and dependent claims 2-8 are shown to be taught by Thompson above, the combination of dependent claims 10-13, 15-20 with their respective independent claims 9 and 14 are also shown by Thompson. Hence, all claims, AS RECITED, are taught by Thompson et al.

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Conclusion

6. Hence, no claims allowed.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for
entry)

or:

(703) 308-1396 (informal or draft communications labeled
"PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park
2, 2121 Crystal Drive, Arlington, VA., 6th floor receptionist.


9. Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Kyle J.
Choi whose telephone number is (703)306-5845. The examiner can
normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are
unsuccessful, the examiner's supervisor, Kevin J Teska can be
reached on (703)305-9704. The fax phone numbers for the
organization where this application or proceeding is assigned
are (703)308-1396 for regular communications and (703)308-1396
for After Final communications.

Any inquiry of a general nature or relating to the status
of this application or proceeding should be directed to the
receptionist whose telephone number is (703)305-3900.

KC

January 11, 2000


ERIC W. STAMBER
PRIMARY EXAMINER